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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/859,558	05/17/2001	Hong Gan	04645.0734	4108

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EXAMINER	
WEINER, LAURA S	
ART UNIT	PAPER NUMBER
1745	6

DATE MAILED: 03/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/859,558	Applicant(s) GAN ET AL.	
	Examiner Laura S Weiner	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 May 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4-5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-21 and 22-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 22 are rejected because it is unclear what is meant by "a relatively high energy density ...a relatively low rate capability" and "a relatively low energy density ...a relatively high rate capability" because of the use of "relatively".

Claims 8 and 28 are rejected because it is unclear what is meant SVO, CSVO and CVO and CuO2 should be CuO; Cu2S should be CuS, etc.

Claim 14 is rejected because there is no antecedent basis for "the first and second current collectors are" because claim 1 from which the claim depends from does not discuss current collectors.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-8, 15-19, 22, 28-29 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ebel et al. (5,667,916).

Ebel et al. teaches battery-powered implantable medical devices where the cathode materials comprise fluorinated carbon and a metal containing material. Ebel et al. teaches in column 1, lines 54-64, that an alkali metal cell having CFx/CuS cathode active admixture has an higher rate capability than either of the active constituents. Ebel et al. teaches in column 2, lines 40-60, that the carbonaceous material preferably is prepared from carbon and fluorine and includes graphitic and nongraphitic forms of carbon such as coke, charcoal or activated carbon. If required, a binder material can also be used. Ebel et al. teaches that active materials suitable to be mixed with fluorinated carbon is CuS, CuO, FeS, FeS2, silver vanadium oxide, copper vanadium oxide, copper silver vanadium oxide, etc. Ebel et al. teaches in column 4, lines 19-56, that the electrolyte includes an ionizable alkali metal salt such as LiPF6, etc. dissolved in an aprotic organic solvent or a mixture of solvents comprising a low viscosity solvent such as THF and a high permittivity solvent such as PC. Ebel et al. teaches that the anode comprises lithium.

In the event any differences can be shown for the product of the product by process claims as opposed to the product taught by Ebel et al., such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results. *In re Thrope 227 USPQ 964; (Fed. Cir. 1985).*

With respect to the product by process claims, the determination of patentability is based upon the product itself not upon the method of its production. *In re Thrope 227 USPQ 964; In re Brown 173 USPQ 685; In re Bridgeford 149 USPQ 55; In re Wertheim 191 USPQ 90.* Any difference imparted by the product by process limitations would have been obvious to one having ordinary skill in the art at the time the invention was made because where the Examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the Applicants to establish that their product is patentably distinct. *In re Brown 173 USPQ 685 and In re Fessmann 180 USPQ 324.*

5. Claims 1, 8, 15-19 and 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Weiss et al. (5,180,642) or Sunderland et al. (5,811,206).

Weiss et al. teaches cells comprising lithium anodes, a liquid electrolyte and a cathode comprising MnO2 and CFx. Weiss et al. teaches in column 2, lines 1-5, that the electrolyte comprises 1M LiClO4 in 50/50 propylene carbonate/diglyme or glyme.

Sunderland et al. teaches in column 6, lines 20-43, that the electrochemical cell comprises a hybrid cathode containing CSVO and CFx and an electrolyte comprising PC/diglyme electrolyte and 1M lithium perchlorate.

In the event any differences can be shown for the product of the product by process claims as opposed to the product taught by Weiss et al. or Sunderland et al., such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results. *In re Thrope 227 USPQ 964; (Fed. Cir. 1985).*

With respect to the product by process claims, the determination of patentability is based upon the product itself not upon the method of its production. *In re Thrope 227 USPQ 964; In re Brown 173 USPQ 685; In re Bridgeford 149 USPQ 55; In re Wertheim 191 USPQ 90.* Any difference imparted by the product by process limitations would have been obvious to one having ordinary skill in the art at the time the invention was made because where the Examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the Applicants to establish that their product is patentably distinct. *In re Brown 173 USPQ 685 and In re Fessmann 180 USPQ 324.*

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Endo (EP 58-223264, abstract) teaches to increase discharge voltage and improve voltage flatness of a battery by using as an active mass fibrous graphite fluoride which contains

graphite fluoride (CxF)n and hexagonal net plane of carbon is practically parallel to fiber axis and arranged in an annual ring shape.

Allowable Subject Matter

7. Claims 20-21 are allowed. No prior art reference was found teaching a cell comprising a cathode having a first active material, CFx sandwiched between a first and second current collectors and having a different second cathode material contacting the first and second current collectors opposite the first cathode active material.

8. Claims 9-13, 30-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura Weiner whose telephone number is (703) 308-4396. The examiner works a flexible schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (703) 308-2383. The fax phone number for non-after finals is 703-872-9310 and the fax phone number for after-finals is 703-872-9311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Laura S. Weiner
Primary Examiner
Art Unit 1745
March 13, 2003